

REMARKS

Claims 2-7, 9-13, 15-18 and 20-24 were pending in the application when the present Office Action was mailed (December 8, 2008). In this response, claims 2-4, 9-13, 15-18 and 20-24 have been canceled without prejudice to pursuing these claims in a continuation or other application. Claim 5 has been amended without prejudice to or disclaiming of pursuing the subject matter of this claim in a continuation or other application. Claims 25-33 have been added in this response. Accordingly, claims 5-7 and 25-33 are currently pending.

In the December 8, 2008 Office Action, all of the pending claims were rejected. More specifically, the status of the application in light of this Office Action is as follows:

(A) Claim 24 stands objected to based on alleged informalities; and

(B) Claims 2, 3, 5, 6, 9-13, 15, 17, 18, 20-22 and 24 stand rejected under 35 U.S.C. § 103(a) over the combination of U.S. Patent No. 6,556,711 to Koga et al. ("Koga") and U.S. Patent No. 4,996,603 to Kanemitsu et al. ("Kanemitsu").

As a preliminary matter, the undersigned attorney wishes to thank the Examiner for engaging in a telephone interview on February 17, 2009. During the telephone interview, the Examiner and the undersigned attorney discussed the claimed subject matter and the teachings of Koga and Kanemitsu. The following remarks summarize and expand upon the points discussed during the February 17, 2009 telephone interview. The applicants accordingly request that this paper constitute the applicants' Interview Summary. If the Examiner notices any deficiencies in this regard, the Examiner is encouraged to contact the undersigned attorney.

A. Response to Claim Objection

In the December 8, 2008 Office Action, the Examiner objected to claim 24 as allegedly having informalities. Without commenting on or conceding the merits of the

Examiner's position, claim 24 has been canceled. As a result, the objection to claim 24 is now moot.

B. Response to Claim Rejection

The Examiner has also rejected claims 2, 3, 5, 6, 9-13, 15, 17, 18, 20-22 and 24 under 35 U.S.C. § 103(a) over the combination of Koga and Kanemitsu. Even though the applicants respectfully disagree with the merits of this rejection, claims 2, 3, 9-13, 15, 17, 18, 20-22 and 24 have been canceled to expedite the prosecution of this application. Accordingly, the Section 103 rejection of these claims is now moot. Independent claim 5 has been amended to further clarify the claimed subject matter. For at least the reasons discussed below, the combination of Koga and Kanemitsu does not support a Section 103 rejection of claims 5-7. Accordingly, the Section 103 rejection of claims 5-7 should be withdrawn.

Generally described, applicants' technique is directed to identifying areas on a document that contain either images or text based on corresponding background colors of these areas. The applicants' technique includes condensing a document to create a condensed copy of the document based on a document background color (e.g., a white background) by omitting empty portions or areas of the document that contain neither images nor text (e.g., margins on the document). The condensed copy now includes areas that only contain images and/or text. The applicants' technique includes transversely and vertically dividing the condensed copy into a plurality of areas (e.g., four equally spaced rectangular areas 1-4). For each of these areas, a new background color may be chosen. For example, area 1 may include a blue background, and area 2 may include a red background. The new background color is then used for determining whether the individual areas contain images or text. If the individual areas contain images, then that particular area (including the background of the area and the images) is marked as an image area. If the individual areas contain text, then that particular area (including the background of the area and the text) is marked as a text area. If any one of the individual areas cannot be identified as containing images or text, then the applicants' technique includes recursively condensing, dividing, and identifying sub-areas until each of the areas have been identified as an image area or a text area.

As discussed during the February 17, 2009 telephone interview, Koga discloses a process in which all background image segments are recursively separated from other general image segments, which are defined as image segments that are other than background image segments (column 8, lines 5-16). For example, as illustrated in Koga's Figure 1, the input image 5001 includes two intermediate segments 5003 and 5004, which can be separated from the background image segment 5002 of the input image 5001 (column 7, lines 60-64). Koga's technique then determines whether the intermediate segments 5003 and 5004 include additional background image segments. In the illustrated example in Figure 1, the intermediate segment 5003 does not include an additional background segment because it only contains text. As a result, the intermediate segment 5003 is indicated to be a general image segment, which is not a background image segment. On the other hand, the intermediate segment 5004 does include an additional background image segment 5005. As a result, a new intermediate segment 5006 is created by separating the additional background image segment 5005 from the intermediate image segment 5004. Koga's technique then determines whether the new intermediate segment 5006 includes any additional background image segments. Because the new intermediate segment 5006 does not include any more background image segments, it is indicated to be a general image segment.

Kanemitsu discloses an image processing technique for identifying photo portions and text portions of a binary multi-level signal. In particular, Kanemitsu discloses identifying patterns in the multi-level signal to determine whether a particular portion of the signal represents photos or text. In one implementation, as illustrated in Figures 5A-5C, Kanemitsu's technique identifies the number of logic zeros that occur in succession to determine whether the signal is indicating a photo portion or a text portion.

The combination of Koga and Kanemitsu does not support a Section 103 rejection of claim 5 at least because the combined teachings of these references fail to disclose or suggest several features of this claim. For example, as discussed during the February 17, 2009 telephone interview, the combined teachings of Koga and Kanemitsu do not teach or suggest the combination of "choosing a second background color from

the first area" and "determining whether the first area includes the image portion or the text portion based at least in part on the second background color." Even though Koga teaches using background colors to separate an input image, Koga's technique uses the background colors to separate the input image into two groups of image segments: background image segments and general image segments that are not background image segments. In fact, Koga is without regard to whether the "general image segments" are images or text. Instead, Koga's technique attempts to identify all image segments that are background segments in a document. In contrast, the applicant's technique has a generally different approach and end result. The applicant's technique is directed to identifying areas on the document that either include images or the text based at least in part on the background color of the individual areas. As a result, the identified areas would include images or text and the background color, not just the background image segment itself, as taught in Koga. Kanemitsu also fails to teach this feature. Instead of using the background color to determine whether areas on a document contain images or text, Kanemitsu identifies portions of a signal that represents images or text by identifying patterns in the digital signal itself. As a result, even if Koga and Kanemitsu were combined, the combination of these references still fails to teach or suggest at least one feature of claim 5. Accordingly, for at least the foregoing reasons, the Section 103 rejection of claim 5 should be withdrawn.

Claim 5 is further patentable over Koga and Kanemitsu because one skilled in the art would not combine the teachings of these references to come up with the arrangement of claim 5. Koga discloses a recursive process for identifying all background image segments in a document. On the other hand, Kanemitsu discloses a process in which a digital multi-level signal representing a document is processed in a pass-through fashion to identify portions of the signal that represents images or text. Assuming, for the sake of argument, that Koga's technique could be modified to have Kanemitsu's multi-level signal processing, the combined technique would include separating background image segments from general image segments according to Koga and processing the general image segments according to Kanemitsu to identify image portions and text portions of the general image segments. As a result, the combined technique still does not teach or suggest identifying areas on the document

that either includes images or text, as recited in claim 5. Accordingly, for at least the foregoing reasons, claim 5 is patentable over the combination of Koga and Kanemitsu. Claims 6 and 7 depend from claim 5. As a result, the Section 103 rejection of these claims should also be withdrawn for at least the foregoing reasons, and for the additional features of these claims.

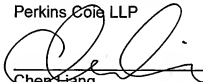
C. New Claims

Claims 25-33 have been added in this response. The subject matter of these claims is supported by the figures and text of the application originally filed. No new matters have been added.

D. Conclusion

In view of the foregoing, the pending claims comply with the requirements of 35 U.S.C. § 112 and are patentable over the applied art. The applicants accordingly request reconsideration of the application and a mailing of a Notice of Allowance. If the Examiner has any questions or believes a telephone conference would expedite prosecution of this application, the Examiner is encouraged to contact the undersigned attorney at (206) 359-6038.

Respectfully submitted,
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